Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) Method for the multidimensional separation of a biosubstance mixture prior to subjecting the mixture to a mass spectrometric analysis, the method comprising separating the biosubstance mixture into multiple discrete fractions using a first fractionating binding by contacting the mixture to a first solid surface and sequentially contacting remaining mixtures of unbound biosubstances to further solid surfaces or a first fractionating dissolution by contacting the mixture to a surface and sequentially dissolving biosubstances through specially adjusted solvents, wherein substantially all of the separated biosubstances in each discrete fraction are further successively separated into a plurality of discrete sub fractions using a second fractionating binding on solid surfaces or a second fractionating dissolution from a surface through specially adjusted solvents.

2. (Original) Method according to claim 1, wherein the biosubstance mixture is a mixture of proteins and/or protein conjugates.

3. (Original) Method according to claim 1 wherein the surface binding is carried out with liquid chromatography phases or substance-affinitive layers.

4. (Original) Method according to claim 1 wherein the surface binding occurs in microtitration plates having microvessels coated on the inner walls with substance-binding layers.

5. (Original) Method according to claim 1, wherein the surface binding occurs in microtitration plates having microvessels containing suspensions of surface-coated particles.

6. (Original) Method according to claim 5, wherein the particles employed are magnetizable spheres.

7. (Original) Method according to claim 1, wherein the surface binding occurs on flat supports whose hydrophobic surface is spot coated with substance-binding layers.

8. (Previously Presented) Method according to claim 1, wherein an enzymatic digestion of the biosubstances of the mixture is carried out after the separation into sub fractions and before the mass spectrometric analysis.

9. (Original) Method according to claim 1, wherein a prior separation of the biosubstance mixture is carried out using size exclusion chromatography.

10. (Original) Method according to claim 9, wherein the size exclusion chromatography uses a microcolumn.

11. (Original) Method according to claim 1, wherein procedural steps for separating the biosubstances are carried out using a pipetting robot.

12. (Previously Presented) Method according to claim 11, further comprising transferring at least one of the separated fractions to MALDI sample support

plates with the pipetting robot in order to subject the samples to the mass spectrometric analysis.

13. (Withdrawn) A microtitration apparatus comprising a microtitration plate having a plurality of microvessels that are sealed with a foil that can be pierced, the microvessels containing at least one of a wall coating with a surface-binding material and a suspension of small particles having a surface-binding material.

14. (Withdrawn) A microtitration apparatus according to claim 13, wherein the microvessels contain at least one of extraction solutions with adjusted salt contents, a washing liquid and, enzymes and buffer solutions for activating the enzymes.

15. (Withdrawn) A microtitration apparatus according to claim 13, wherein a matrix substance for sample preparation for ionization by matrix-assisted laser desorption is also contained in the microtitration plate.

16. (Withdrawn) A microtitration apparatus according to Claim 13 further comprising a plurality of pipette tips shaped to fit within the microvessels.

17. (Withdrawn) A pipette tip for a pipetting robot that fits within a microvessel of a microtitration plate, the pipette tip having at least one surface protrusion that contacts an inner wall of the microvessel so as to maintain a narrow gap between the pipette tip and the inner wall of the microvessel.